ital lobe of the same side. The greater internal part of the cortical centre sends its fibres to the retina of the other side, with the exception of its temporal periphery. The topographical representation of the retina in the visual centre is such that the upper periphery of the retina is represented by the anterior border of the occipital lobe, the lower retinal area by the posterior part, and each lateral retinal border by the cortical margin of the corresponding side. In the dog, hence, the retinal spot of sharpest vision receives its fibres from the cortex of the other side; the hemianopsia, therefore, caused by one-sided destruction, is difficult to detect. Munk claims that the effect of all extensive lesions of the cortical centre is permanent, though difficult to detect after a time on account of the adaptation of the animal by the movements of its eyes.

Lastly, the results of Luciani and Tamburini must be mentioned, which are again at variance with the above statements (Riv. sperim. di frenatria, 1879, 1 and 2, quoted in *Centralbl. f. Nervenheilkd.*, October, 1879). As regards the monkey, they have found that the entire occipital lobe is concerned in vision, and not merely the angular gyrus.

They admit the semi-decussation in the monkey, having seen hemianopsia produced by one-sided destruction. In the dog the visual centre is located by them in second (upper) longitudinal convolution from the front to the rear. Destruction of this region on one side causes, as they observed, nearly complete blindness of the other eye, and slight amaurosis of the same side. They claim that these results are not permanent, but compensation is effected by vicarious activity of the unmutilated remnants of the centres, especially the one of the other side. Finally, they refer to an experiment upon a monkey, in which removal of both angular gyri and both occipital lobes permitted a moderate recovery of sight. Of the various experimental results, those obtained by Munk are brought forth in the most trustworthy manner; and whether or not we accept Munk's explanation, they agree best with pathological observations on man. [H. GRADLE.]

II.—On the use of the cold pack followed by massage in the treatment of anæmia. By MARY PUTNAM JACOBI, M.D., and VICTORIA A. WHITE, M.D. New York: G. P. Putnam's Sons, 1880.

This work is a practical contribution to scientific therapeutics. It consists of three articles originally contributed to the *Archives* *of Medicine* during the past year, but now republished in book-form. The first of these, by Mrs. Putnam Jacobi, reports eleven cases of anæmia, more or less complicated in most with nervous symptoms, in which she had been led to utilize the cold pack by the belief that it would increase or accelerate tissue metamorphosis and thus indirectly increase assimilation and nutrition. Together with the pack, massage was employed with rest, as advised by Weir Mitchell. For medical treatment iron was in most cases given in small and frequent doses, and other remedies *pro re nata.* The urine was carefully measured and analyzed during the treatment, and the results of several of the cases are given in tabulated form.

In the second and third articles, which alone seem to show the joint authorship indicated in the title, these cases are analyzed and discussed. The results of the cold pack and massage treatment were, increase in amount of urine during and after the pack, actual increase but relative decrease of urea excreted, and generally a slight increase also of extractive and inorganic salts. Later there was a decrease of excretion both of water and of urea, so that the actual amount for the day was not decreased. In some instances, where there was an actual increase in the excretion of urea for the twenty-four hours, if this condition persisted, symptoms of *malaise* or exhaustion appeared. It seems, therefore, that the compensatory decrease was a normal and necessary result. On a few occasions, massage was given without any preceding pack and a somewhat less marked increase of water and urea in the urine was observed than when both were given.

In order to test the effect of the pack alone, it was given to three healthy women and the same results obtained as in the other cases.

The beneficial results of this treatment were, increase of appetite, relief of insomnia, enrichment of the blood as shown by reëstablishment of menstruation in three cases of prolonged amenorrhœa, and disappearance of intense dyspeptic symptoms. In one case there was a rapid involution of a subinvoluted uterus, but as ergot was given at the same time, it cannot be said that the hydro-therapy and massage produced this result. In two neurasthenic cases, in which nervous headache was a prominent symptom, the appetite and the general condition were not at all improved, but rather the reverse, by the treatment.

The remainder of the book is given to a discussion of the pathological conditions of anæmia and the physiological modes of action of the cold pack with or without massage. We cannot here follow in detail this very elaborate discussion, but will merely give the substance of the results arrived at by the authors. They recognize in anæmia a morbid condition often congenital or early acquired, characterized by an inability on the part of the tissues to condense oxygen and store albumen in sufficient quantity. Hence the reserve material for the elaboration of force is lacking and this elaboration fails ; there is a general functional debility. They criticise Dr. Weir Mitchell's *brochure* on massage, as having overlooked the fact that anæmic muscles are in a state of chronic fatigue in which they cannot receive benefit from being stimulated to fresh contraction alone. That is, when waste exceeds repair, no good can come from simply increasing waste ; a bottom principle in the treatment of all these asthenic conditions on which we do think Dr. Mitchell has not always laid sufficient stress. Therefore, the criticism may be, to some extent, a just one, and there has been started by his little work a furor for massage that may have been carried to an irrational extreme in some cases. When massage alone does not succeed in increasing the blood supply of the muscles, its effects, as here stated, are likely to produce only further exhaustion.

The following is the summary of the effects of the cold pack in anæmia as stated by the authors :

" The cold pack meets the following indications for the treatment of anæmia thus understood :

1. " In the first moments of application it produces the same stimulation of the peripheric nerves as may be caused by any application of cold—shower-baths, douche, plunge-bath, etc.

2. " It impresses upon the mass of circulating blood a profound movement of oscillation first from without inward, then the reverse. The effect is different in the two periods.

" During the inward movement of the blood, the tension of the abdominal blood-vessels, which has at first been lowered through the agency of the depressor nerve, at first relaxed, becomes raised by the increased volume of blood driven to them and circulating through the abdominal viscera, not with increased rapidity but with increased force. As a consequence there is :

a. " Increased metamorphosis of albuminoid substances in the liver and spleen, resulting finally in greater production of urea. When iron is absorbed with the albumen, there seems to be initiated in these same glands more abundant regeneration of red corpuscles.

b. "Increased consumption of stored or latent oxygen in the series of oxidations culminating in urea. Hence, during the period following the pack, probably increased absorption of oxygen, coinciding with diminished oxidations. These latter are indicated by diminished production of urea (of carbonic acid also ?).

c. "Possibly increased movement of assimilation of now decomposed albumen (and other food), coinciding with the movement of increased decomposition affecting that portion of circulating albumen which has originated the urea, both movements immediately dependent on an increased force of elementary intervascular circulation.

d. "Probable assimilation of the non-nitrogenous portion of the decomposed albumen.

e. "Increased elimination of water from the kidneys and, hence, aspiration of excess of water from anæmic tissues.

f. "During this elementary outstreaming of water, facilitated washing away of acid fatigue-products from nerves and muscles.

"This latter (calculated) effect, to be attributed partly to the second half of the movement of oscillation of the blood mass. During this secondary movement from within outward, we have :

A. "Diminution of passive hyperæmia in the alimentary mucous membrane.

B. "Increased nutritive absorption, partly in consequence of allayed hyperæmia, partly as the direct expression of a movement of fluids outward from the alimentary canal.

C. "Afflux of blood to muscles, enabling them to increase their store of contractile material, and thus become more capable of exercise.

D. "In this afflux, and on account of thermic irritation of the peripheric nerves, increased production of heat. From the coincident immobility of the body and the arrest of radiation, a certain proportion of this increment saved. (The increment of urea is probably derived in part from increased chemical changes of circulating albumen in the muscles during the production of heat.)

E. "In the production of heat in response to a physiological stimulus, the nervous system, through the portion involved in the reflex mechanism, is especially stimulated, and the stimulus is immediately followed by special provisions for repose.

F. "During the afflux of blood to the periphery, blood is drawn from the nerve centres, which are thus placed in a condition analogous to sleep—a condition favorable to repose and nutritive assimilation.

"The establishment of an equilibrium of temperature is followed by a cessation of chemical activity in the muscles, and necessarily by sedation of the nerves. These effects are of especial symptomatic importance in irritable anæmias.

3. "During the pack the radial pulse is slackened, and its tension lowered. We may infer increased facilities for nutrition in tissue elements hitherto irritated rather than nourished by a blood stream imperfect in quantity and too rapid in duration.

"Massage intensifies and prolongs some of the effects of the pack when this has been previously administered.

"Given alone it is much less effectual than the pack, because its influence is less complete, and especially because it is less certain to determine blood to anæmic muscles.

"In cases of 'neurasthenia' or of hysteria, the cold pack is only beneficial in proportion to the coexisting anæmia. If this is not marked in proportion to the neurotic element, the pack may be useless or even injurious.

"The cold pack is decidedly dangerous, if administered too near to periods of abdominal hyperæmia, whether physiological, as digestion and menstruation, or pathological, as in lurking peritonitis."

We need add nothing to this summary except to say that it is well supported by the argument in the preceding text and that the treatment appears every way exceedingly rational. That experience has confirmed its value is shown by the cases here narrated. The work is a real contribution to medical literature.

III.—The brain as an organ of the mind. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S., etc. New York: D. Appleton & Co., 1880.

This book has been widely advertised in newspapers and medical journals, and we have met with many physicians who are disposed to regard it as a stupendous achievement in neurological literature. Students who have kept pace with the advances in microscopical research, who have carefully read the short but multitudinous monographs, polemical, dogmatic, and strictly scientific, which, month after month, appear in the better class of physiological and medical periodicals, cannot avoid a feeling of surprise that an attempt to condense such matters into the form in which Dr. Bastian presents it to us, should have attracted so much general attention.